WHAT IS CLAIMED IS:

1. A device for selectively filtering an incident beam of light, the device comprising:

a first interference-filter array arranged to separate the incident beam into a plurality of spectrally complementary beams;

an array of configurable optical shutters disposed along paths of the separated beams to selectively block transmission of respective separated beams; and

a second interference-filter array arranged to combine the separated beams whose transmission has not been blocked in accordance with states of the configurable optical shutters to produce a filtered output beam of light.

2. The device recited in claim 1 wherein the first interference-filter array comprises:

a first band-edge interference filter disposed to encounter the incident beam; and

a mirror disposed to encounter one of the plurality of spectrally complementary beams.

3. The device recited in claim 2 wherein the first interference-filter array further comprises a plurality of second band-edge interference filters disposed along an optical path between the first band-edge interference filter and the mirror.

4. The device recited in claim 3 wherein the interference filters and the mirror are inclined at substantially 45° relative to the optical path between the first band-edge interference filter and the mirror.

5. The device recited in claim 3 wherein:

the first band-edge interference filter comprises a high-pass band-edge interference filter; and

the second band-edge interference filters comprise low-pass band-edge interference filters.

6. The device recited in claim 3 wherein:

the first band-edge interference filter comprises a low-pass band-edge interference filter; and

the second band-edge interference filters comprise high-pass band-edge interference filters.

7. The device recited in claim 1 wherein the first interference-filter array comprises:

a first mirror disposed to reflect the incident beam;

a band-edge interference filter disposed to encounter the incident beam reflected from the first mirror; and

a second mirror disposed to encounter one of the plurality of spectrally complementary beams.

8. The device recited in claim 1 wherein the second interference-filter array comprises:

a first band-edge interference filter from which the output beam emanates; and

a mirror.

9. The device recited in claim 8 wherein the second interference-filter array further comprises a plurality of second band-edge interference filters disposed along an optical path between the first band-edge interference filter and the mirror.

10. The device recited in claim 9 wherein the interference filters and the mirror are inclined at substantially 45° relative to the optical path between the first band-edge interference filter and the mirror.

11. The device recited in claim 9 wherein:

the first band-edge interference filter comprises a high-pass band-edge interference filter; and

the second band-edge interference filters comprise low-pass band-edge interference filters.

12. The device recited in claim 9 wherein:

the first band-edge interference filter comprises a low-pass band-edge interference filter; and

the second band-edge interference filters comprise high-pass band-edge interference filters.

13. The device recited in claim 1 wherein the second interference-filter array comprises:

a first mirror from which the output beam emanates;

a second mirror disposed to encounter one of the plurality of spectrally complementary beams; and

a band-edge interference filter disposed between the first and second mirrors and disposed to transmit the output beam to the first mirror.

14. The device recited in claim 1 wherein the optical shutters comprise mechanical shutters.

15. The device recited in claim 1 wherein the optical shutters comprise liquid-crystal shutters.

16. The device recited in claim 1 wherein the first interference-filter array comprises an interference filter selected from the group consisting of a dichroic beam splitter, a Raman edge filter, and a Rugate notch filter.

17. The device recited in claim 1 wherein the second interference-filter array comprises an interference filter selected from the group consisting of a dichroic beam splitter, a Raman edge filter, and a Rugate notch filter.

18. The device recited in claim 1 further comprising:

an input polarizer disposed to be encountered by the incident beam prior to encountering the first interference-filter array; and

an output polarizer disposed to be encountered by the output beam,

wherein the input and output polarizers have a relative orientation of 90°.

19. The device recited in claim 1 wherein the first interference-filter array is further arranged to separate the incident beam into a plurality of beams having complementary polarizations, the plurality of spectrally complementary beams having a first polarization, the device further comprising:

a third interference-filter array arranged to separate a beam having a second polarization into a second plurality of spectrally complementary beams;

a second array of configurable optical shutters disposed along paths of the second plurality of spectrally complementary beams to selectively block transmission of respective ones of the second plurality of spectrally complementary beams; and

a fourth interference-filter array arranged to combine the second plurality of spectrally complementary beams whose transmission has not been blocked in accordance with states of the second array of configurable optical shutters,

wherein the second interference-filter array is further arranged to combine the combination of the second plurality of spectrally complementary beams with the filtered output beam of light.

20. The device recited in claim 1 further comprising:

a plurality of input polarizers disposed to encounter each of the separated beams prior to encountering the array of configurable optical shutters;

a plurality of corresponding output polarizers disposed to encounter each of the separated beams that are transmitted through respective optical shutters,

wherein each input polarizer and corresponding output polarizer have a relative orientation of 90°.

21. A device for selectively filtering an incident beam of light, the device comprising:

a first beamsplitter disposed to separate the incident beam into spectrally complementary first and second beams;

an optical train providing optical paths for the first and second beams from the first beamsplitter;

an array of configurable optical shutters disposed along the optical paths to selectively prevent transmission of light along each of the optical paths; and

a first optical combiner disposed relative to the optical paths to combine light transmitted along the optical paths according to states of the optical shutters to produce a filtered output beam of light.

22. The device recited in claim 21 wherein the optical train comprises a second beamsplitter disposed to separate the second beam into a plurality of spectrally complementary second beams.

23. The device recited in claim 22 wherein the optical train further comprises a plurality of mirrors disposed to define the optical path for one of the plurality of second beams.

24. The device recited in claim 22 wherein the optical train further comprises a second optical combiner disposed to combine light transmitted along the optical paths for the plurality of second beams according to states of the optical shutters.

25. The device recited in claim 24 further comprising:

a plurality of input polarizers disposed to encounter each of the first and second beams prior to encountering the array of configurable optical shutters; and

a plurality of corresponding output polarizers disposed to encounter each of the first and second beams after encountering the array of configurable optical shutters,

wherein each input polarizer and corresponding output polarizer have a relative orientation of 90°.

26. The device recited in claim 24 wherein each of the beamsplitters and optical combiners is oriented at substantially 45° relative to one of the optical paths.

27. The device recited in claim 21 wherein:

the first beamsplitter and first optical combiner comprise high-pass band-edge interference filters; and

the second beamsplitter and second optical combiner comprise low-pass band-edge interference filters.

28. The device recited in claim 21 wherein:

the first beamsplitter and first optical combiner comprise low-pass band-edge interference filters; and

the second beamsplitter and second optical combiner comprise high-pass band-edge interference filters.

29. The device recited in claim 27 wherein the interference filters comprise dichroic beamsplitters.

30. The device recited in claim 27 wherein the interference filters comprise Raman edge filters.

31. The device recited in claim 27 wherein the interference filters comprise Rugate notch filters.

32. The device recited in claim 21 wherein the optical shutters comprise mechanical shutters.

33. The device recited in claim 21 wherein the optical shutters comprise liquid-crystal shutters.

34. The device recited in claim 21 further comprising:

an input polarizer disposed to be encountered by the incident beam prior to encountering the first beamsplitter; and

an output polarizer disposed to be encountered by the output beam,

wherein the input and output polarizers are have a relative orientation of 90°.

35. A method for selectively filtering an incident beam of light, the method comprising:

separating the incident beam into a plurality of spectrally complementary beams;

selectively blocking transmission of some of the separated beams; and

combining the separated beams that are not blocked to produce a filtered output beam of light.

36. The method recited in claim 35 wherein selectively blocking transmission of some of the separated beams comprises routing the separated beams along distinct optical paths to respective optical shutters and selecting states of the optical shutters.

37. The method recited in claim 35 wherein separating the incident beam comprises separating the incident beam into a first beam that includes wavelengths above a first cutoff wavelength and a second beam that includes wavelengths below the first cutoff wavelength.

38. The method recited in claim 37 wherein one of the first and second beams corresponds to a remainder beam and separating the incident beam further comprises successively separating the remainder beam according to a further cutoff wavelength into a third beam and a further remainder beam.

39. The method recited in claim 35 wherein combining the separated beams that are not blocked comprises successively adding one separated beam at a time to a combination beam to produce the filtered output beam.

40. The method recited in claim 35 further comprising:

polarizing the incident beam; and

polarizing the filtered output beam.

41. The method recited in claim 35 further comprising:

polarizing each of the separated beams prior to selectively blocking transmission of some of the separated beams; and

polarizing each of the separated beams that are not blocked after selectively blocking transmission of some of the separated beams.

42. The method recited in claim 35 further comprising:

separating the incident beam into a plurality of beams having complementary polarizations, the plurality of spectrally complementary beams having a first polarization;

separating a beam having a second polarization into a second plurality of spectrally complementary beams;

selectively blocking transmission of some of the second plurality of spectrally complementary beams;

combining the second plurality of spectrally complementary beams that are not blocked; and

combining the combination of the second plurality of spectrally complementary beams with the filtered output beam.

43. A device for selectively filtering an incident beam of light, the device comprising:

means for separating the incident beam into a plurality spectrally complementary beams;

means for selectively blocking transmission of some of the separated beams; and

means for combining the separated beams that are not blocked to produce a filtered output beam of light.

44. The device recited in claim 43 wherein the means for selectively blocking transmission of some of the separated beams comprise means for routing the separated beams along distinct optical paths to respective optical shutters and selecting states of the optical shutters.

45. The device recited in claim 43 wherein the means for separating the incident beam comprise means for separating the incident beam into a first beam that includes wavelengths above a first cutoff wavelength and a second beam that includes wavelengths below the first cutoff wavelength.

46. The device recited in claim 45 wherein one of the first and second beams corresponds to a remainder beam and the means for separating the incident beam further comprise means for successively separating the remainder beam according to a further cutoff wavelength into a third beam and a further remainder beam.

47. The device recited in claim 43 wherein the means for combining the separated beams that are not blocked comprise means for successively adding one separated beam at a time to a combination beam to produce the filtered output beam.

48. The device recited in claim 43 further comprising:

means for polarizing the incident beam; and

means for polarizing the filtered output beam.

49. The device recited in claim 43 further comprising:

means for polarizing each of the separated beams prior to selectively blocking transmission of some of the separated beams; and

means for polarizing each of the separated beams that are not blocked after selectively blocking transmission of some of the separated beams.